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**TITLE:** LEAD-FREE SOLDER ALLOY  
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**INVENTOR-INFORMATION:**

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**ABSTRACT:**

PROBLEM TO BE SOLVED: To provide a lead-free solder alloy which consists of an Sn-Cu alloy or an Sn-Ag-Cu alloy as a general lead-free solder alloy, and in which oxidation can be prevented, and to provide a lead-free solder alloy in which oxidation can be prevented, even in the case P and Ga contained in the lead-free solder alloy are reacted with oxide and consumed when used, by replenishing P and Ga.

SOLUTION: The lead-free solder alloy has a composition containing, by weight, 0.1 to 7.0% Cu, and P and Ga by 0.001 to 1% in total, and the balance Sn. Alternatively, the lead-free solder alloy has a composition containing 2.0 to 5.0% Ag, 0.1 to 1.0% Cu, and P and Ga by 0.001 to 1% in total, and the balance Sn. Alternatively, the lead-free solder alloy has a composition containing P and Ga by 0.01 to 5% in total, and the balance Sn, and is used for replenishing P and Ga when P and Ga contained in the above lead-free solder alloy are consumed when used.

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